

ABSTRACT

An electrochemical transistor device is provided, comprising a source contact, a drain contact, at least 5 one gate electrode, an electrochemically active element arranged between, and in direct electrical contact with, the source and drain contacts, which electrochemically active element comprises a transistor channel and is of a material comprising an organic material having the ability of electrochemically altering its conductivity 10 through change of redox state thereof, and a solidified electrolyte in direct electrical contact with the electrochemically active element and said at least one gate electrode and interposed between them in such a way that 15 electron flow between the electrochemically active element and said gate electrode(s) is prevented. In the device, flow of electrons between source contact and drain contact is controllable by means of a voltage applied to said gate electrode(s).

20 Also provided are displays incorporating such electrochemical transistor devices and processes for the production of such devices.

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Elected for publication: Figure 1A